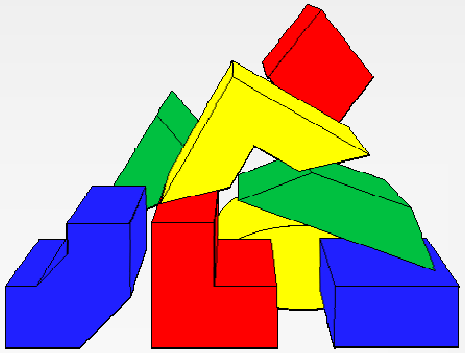
Welcome



Architecting-the-Enterprise

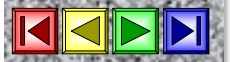
Tools for TOGAF

the Last piece of the Jigsaw, not the First

David Harrison
David Harrison Enterprises
davidharrisonenterprises@harrison-family.co.uk

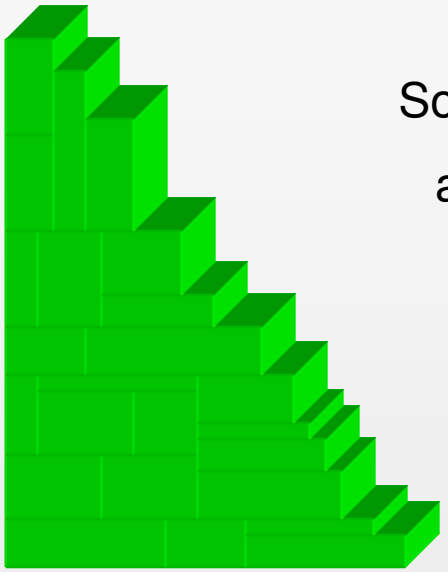
Enterprise Architecture

- The Enterprise Architecture is:
  - The all embracing architecture for the business or organization
- The Enterprise Architecture:
  - crosses multiple systems & multiple functional groups within the enterprise
  - is the design by which the organization achieves its business goals and delivers its business objectives
- The Technical IT Architecture is a major enabling component of an Enterprise Architecture



An Enterprise Architecture is Not Optional

Every enterprise already has an IT Architecture

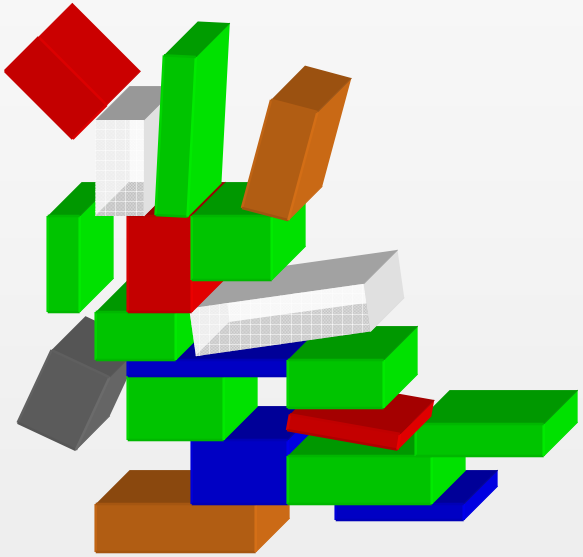


Some

are designed

and some

just happen

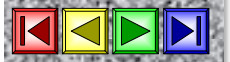


But it's there
and it affects the efficiency of the enterprise

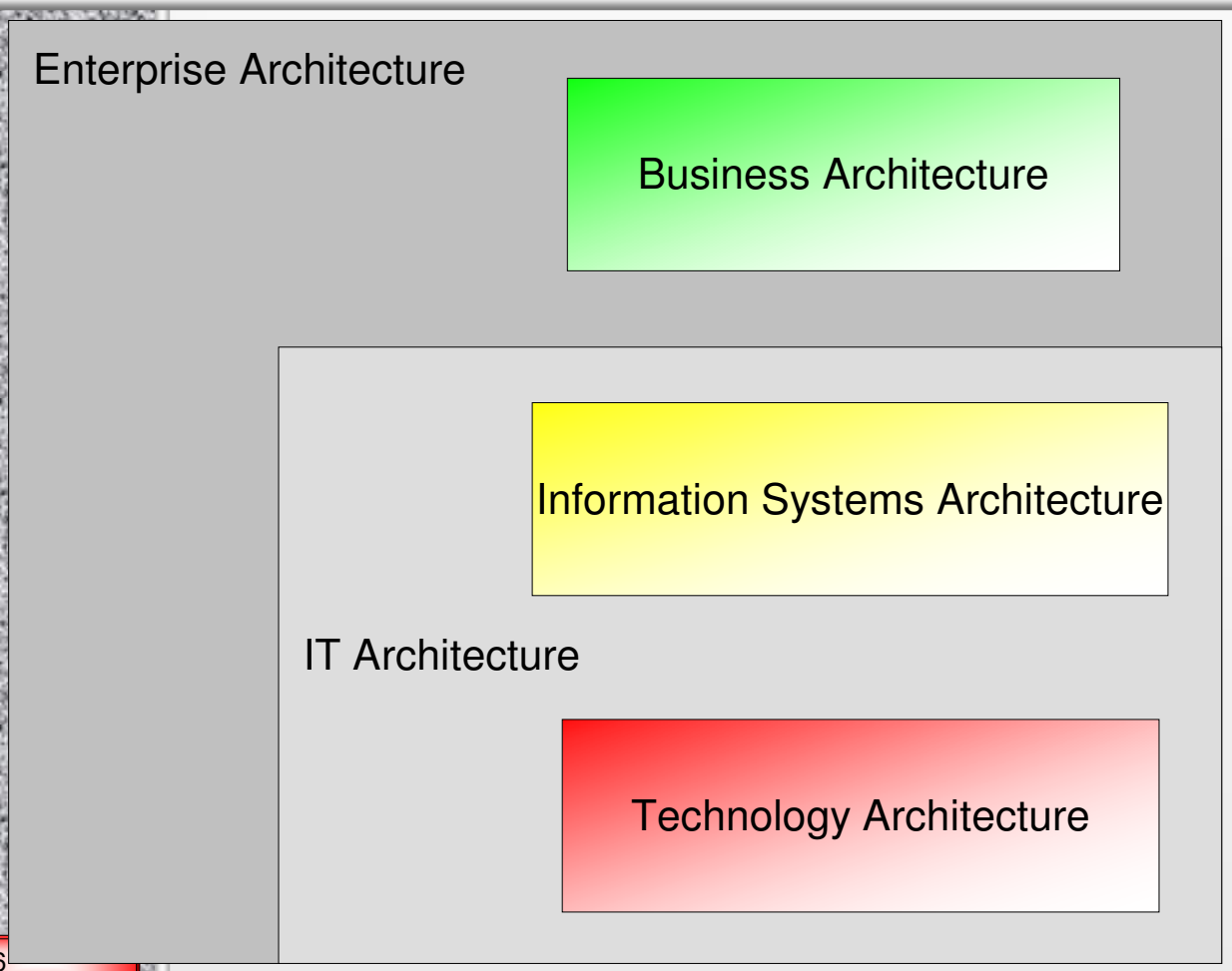
What is an Architecture?

- An Architecture is the fundamental organization of something, embodied in
  - its **components**
  - their **relationships** to each other and the environment
  - and the **principles** governing its design and evolution

Adapted from ANSI/IEEE Standard 1471-2000



Levels of Architecture in TOGAF



How the business is organised to meet it's objectives

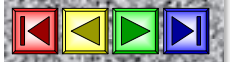
How information systems support the objectives of the business

How the technology fits together

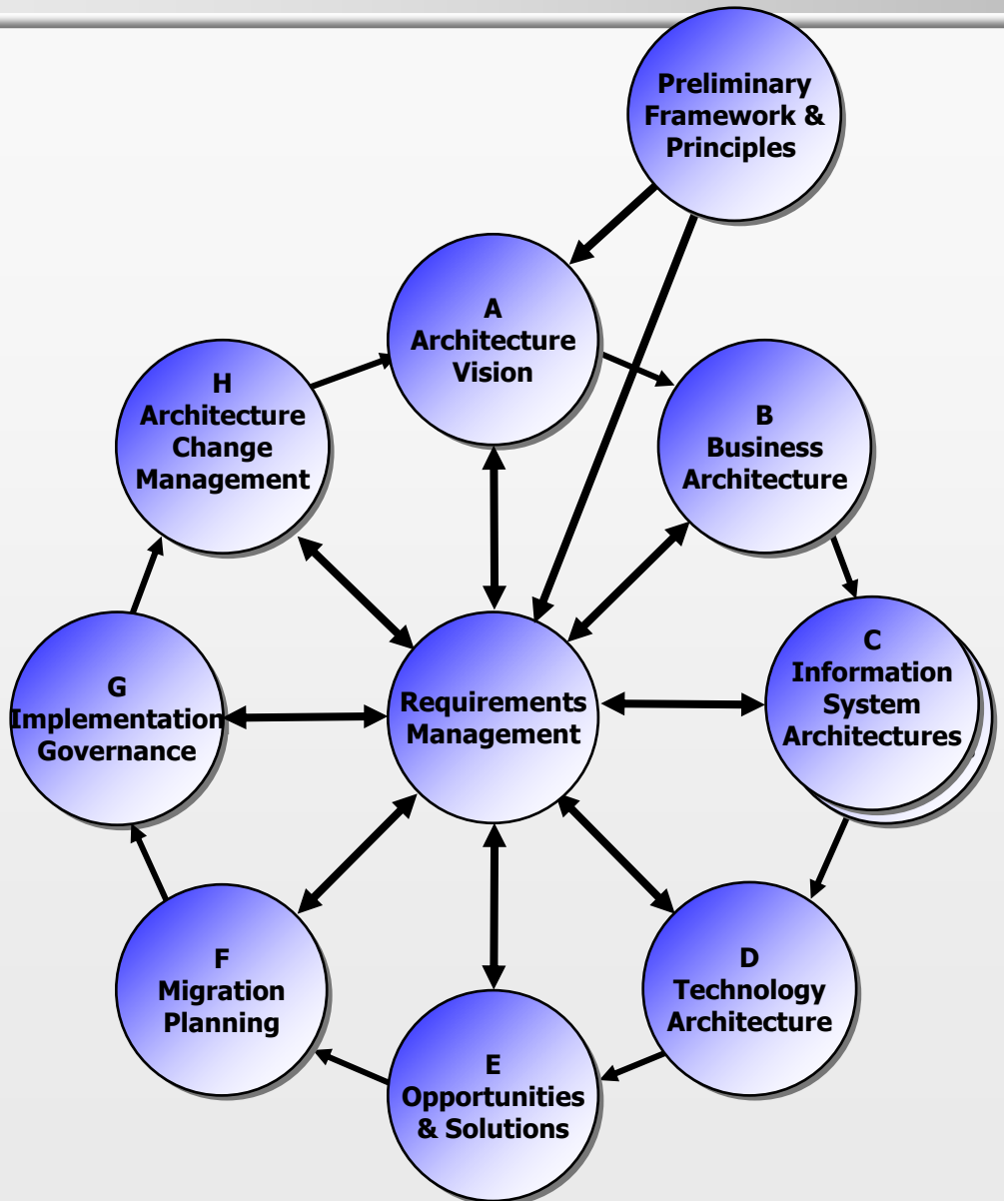
Baseline "As Is" **Target "To Be"**

Standards and Principles for EA (and Tool Support)

- Traceability
  - business objectives ➔ models ➔ architecture ➔ solution
- Re-use of architecture artefacts
  - across architecture domains
  - across frameworks
  - across the “Enterprise Continuum”
- Full integration of graphical and textual artefacts
- Enable multiple stakeholder views
- Support for corporate standards
- Support for corporate naming conventions and business rules
- Enable a common vocabulary for all stakeholders
- Provide consistency of:
  - meaning ➔ core taxonomy
  - definition content
  - diagram styles
  - presentation



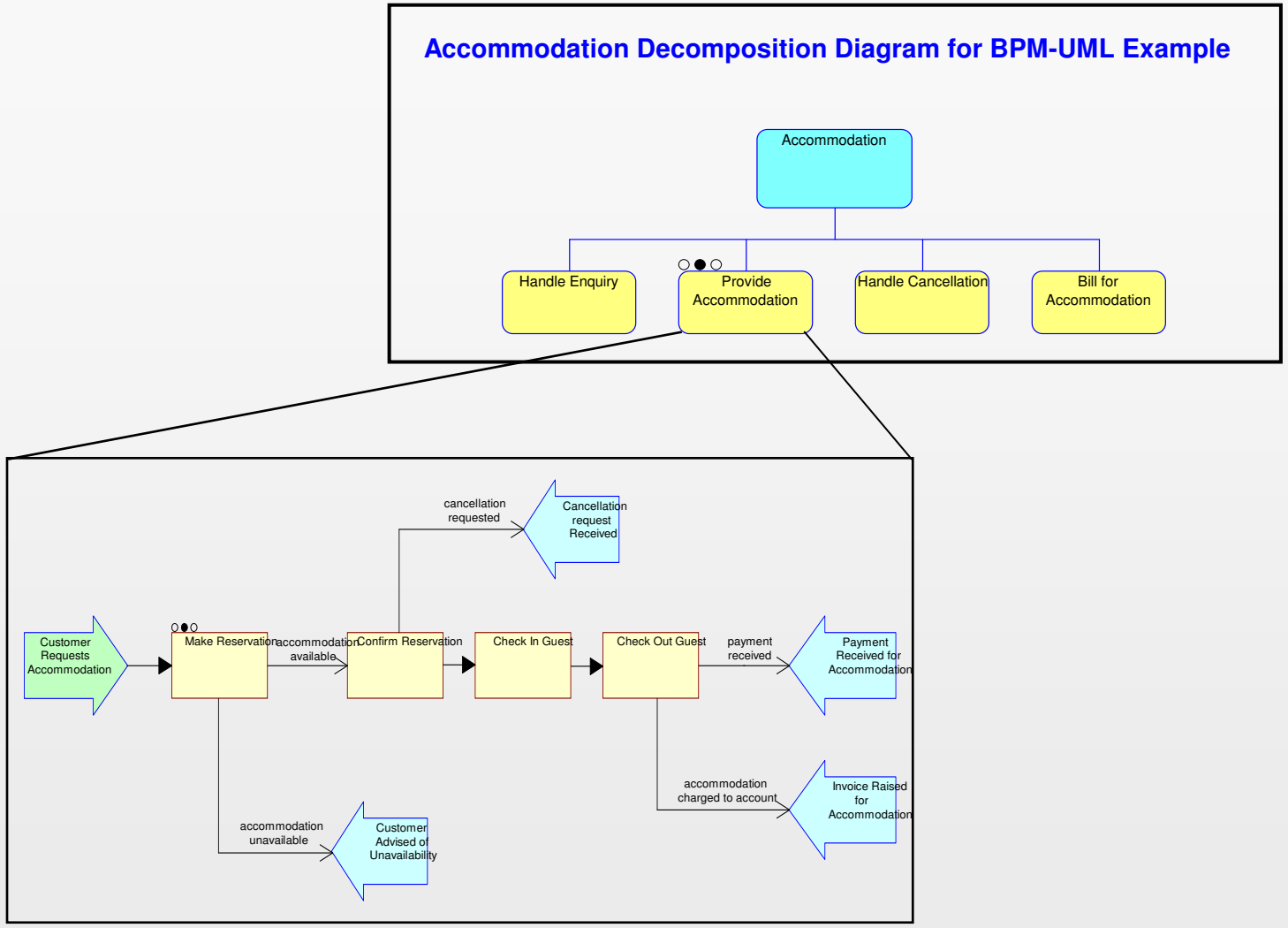
The TOGAF Architecture Development Method



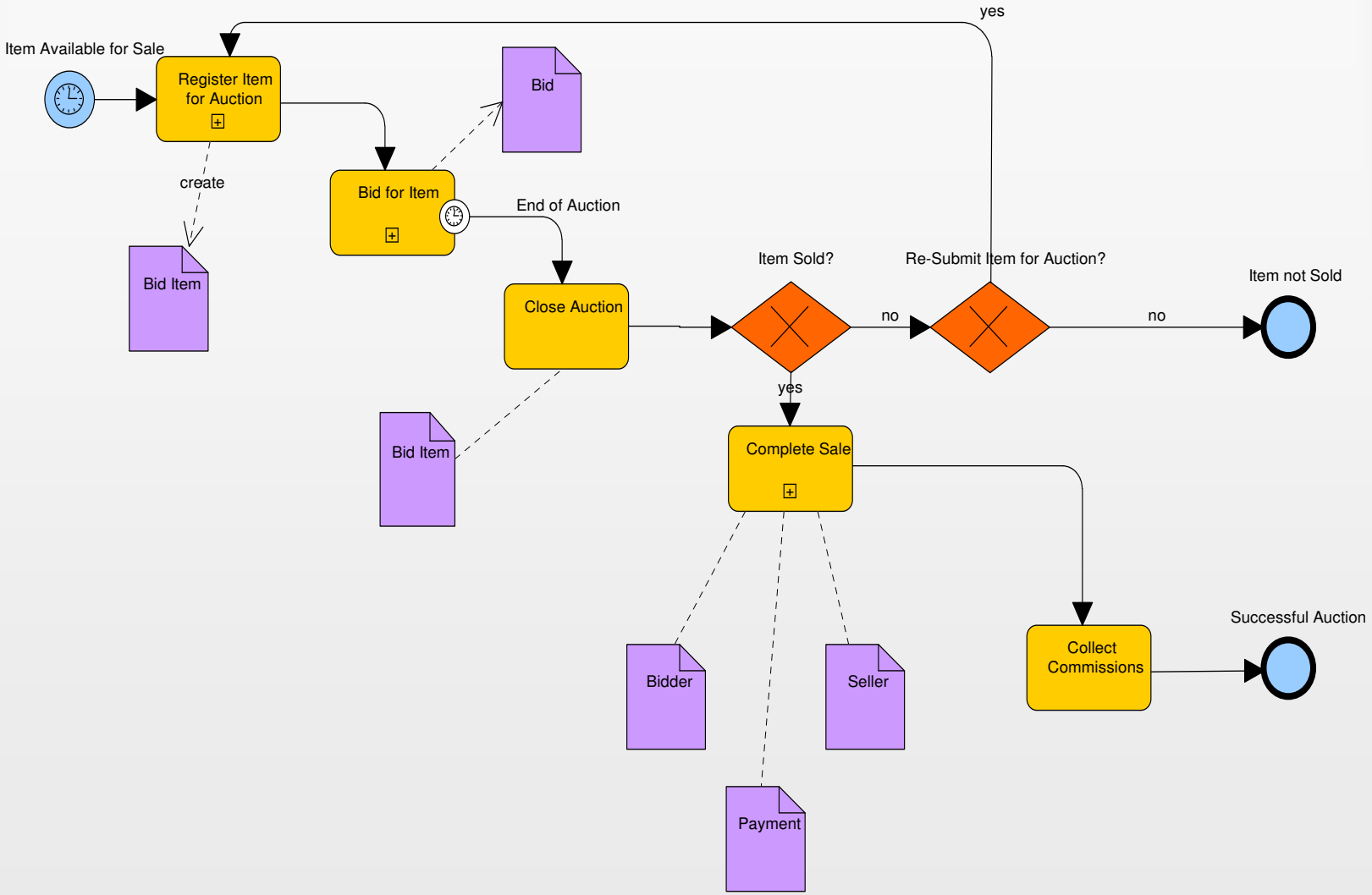
In the initial phases, standard office tools may suffice

As we proceed around the ADM cycle, the amount of information becomes unmanageable

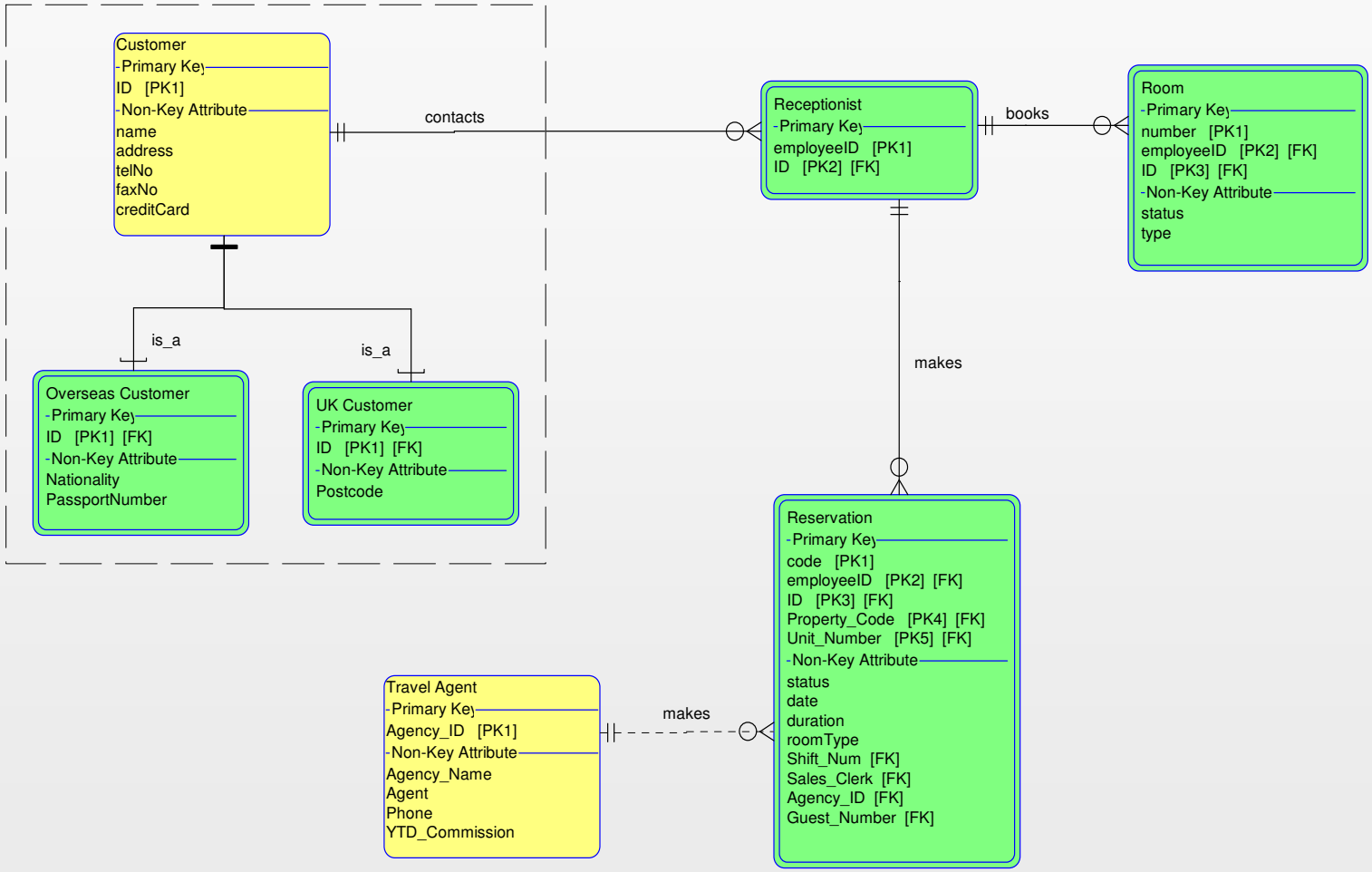
Business Process Model



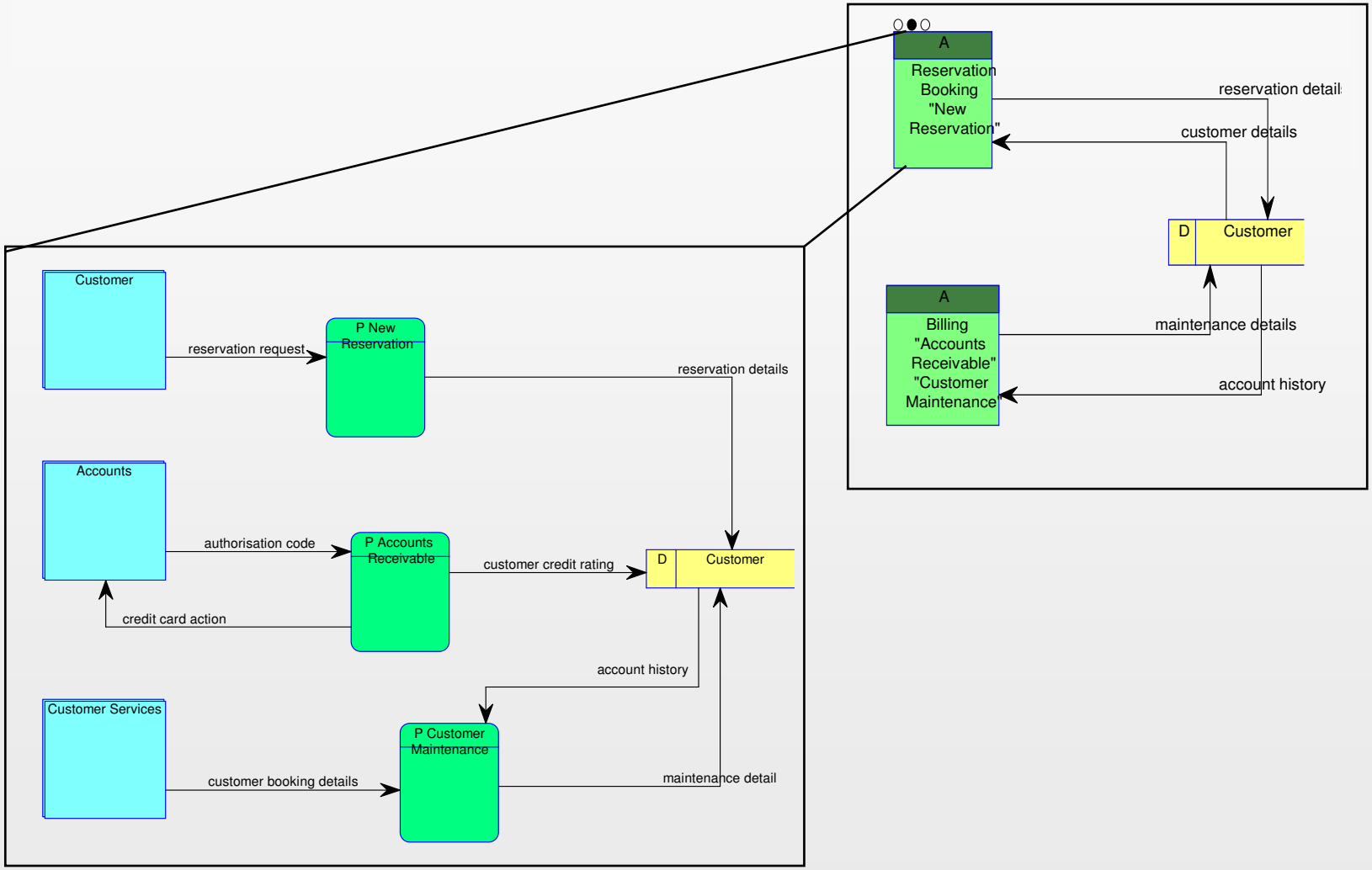
Business Process Model (BPMN)



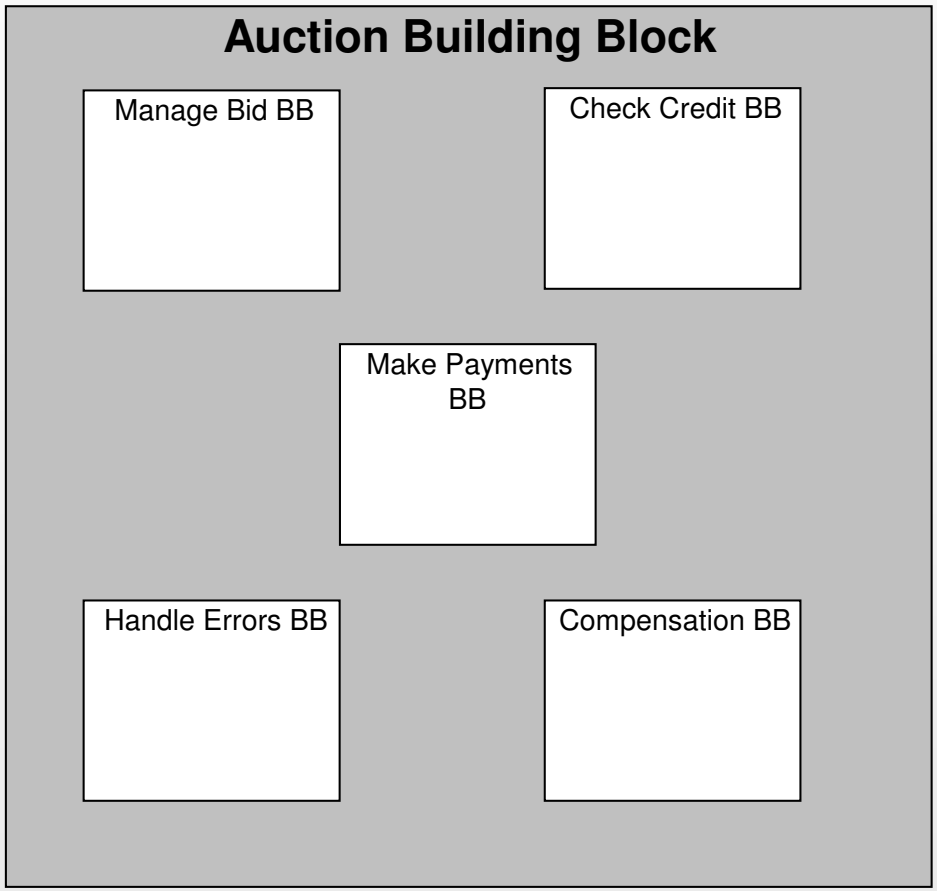
Data Model



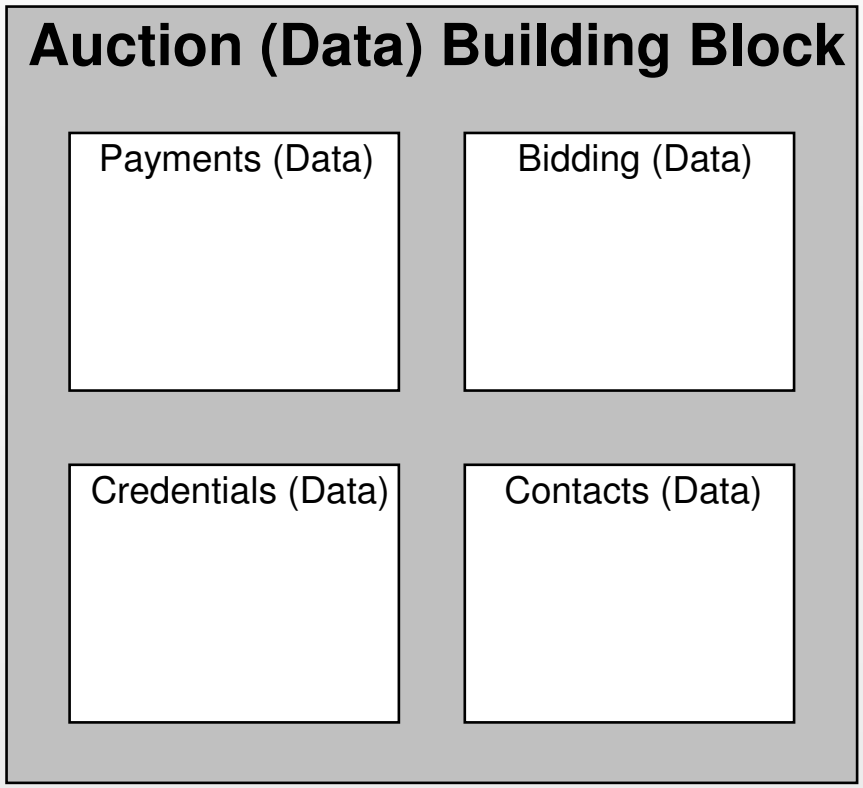
Application Model



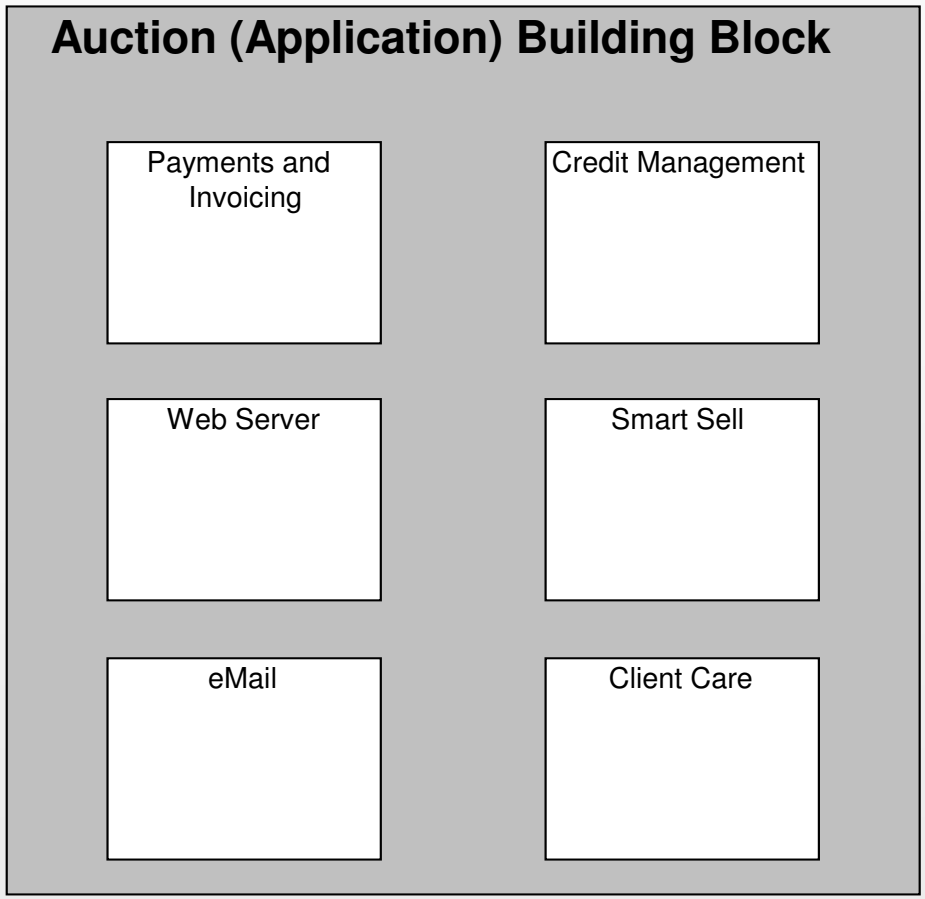
Business Architecture



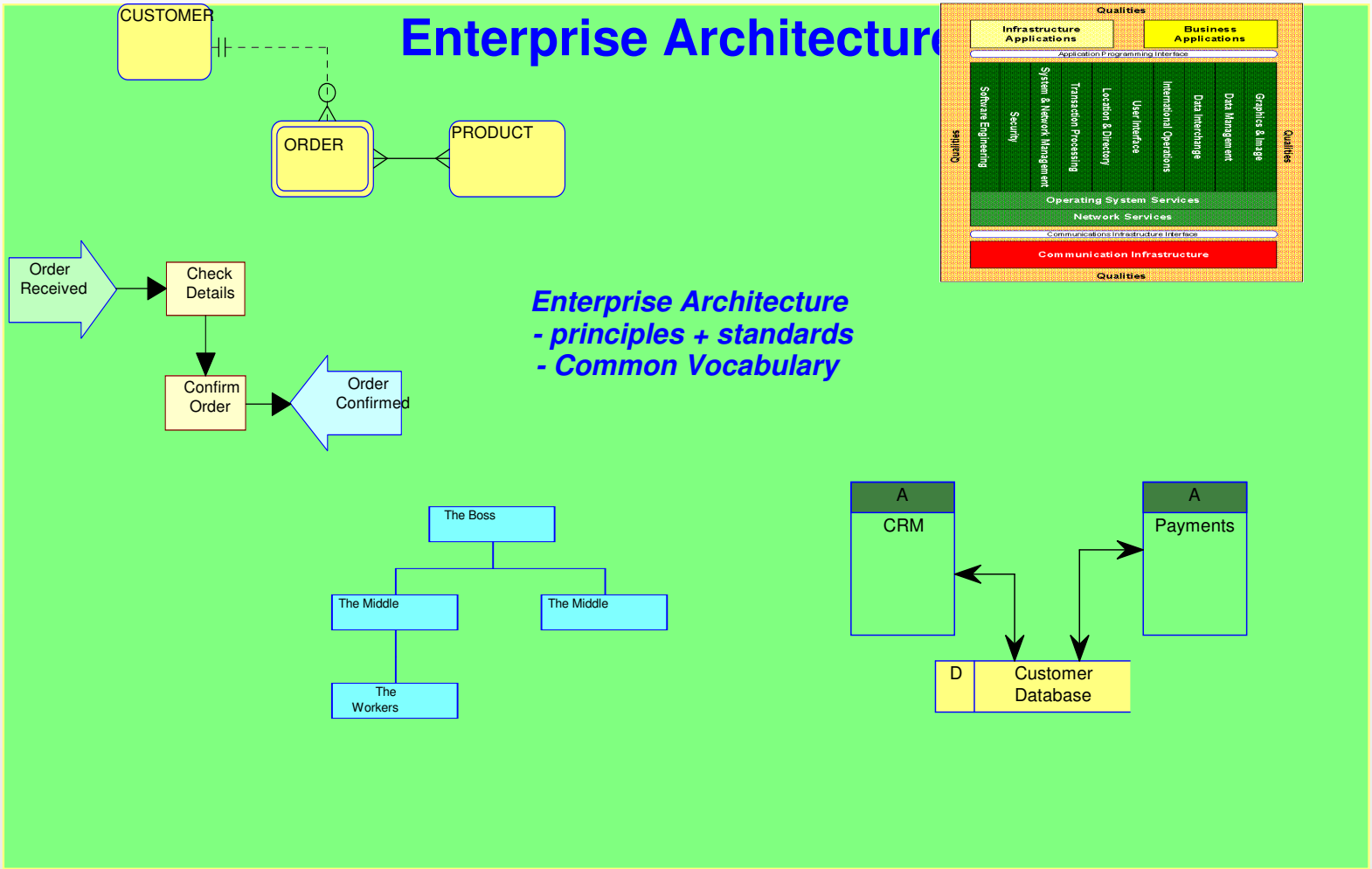
Data Architecture



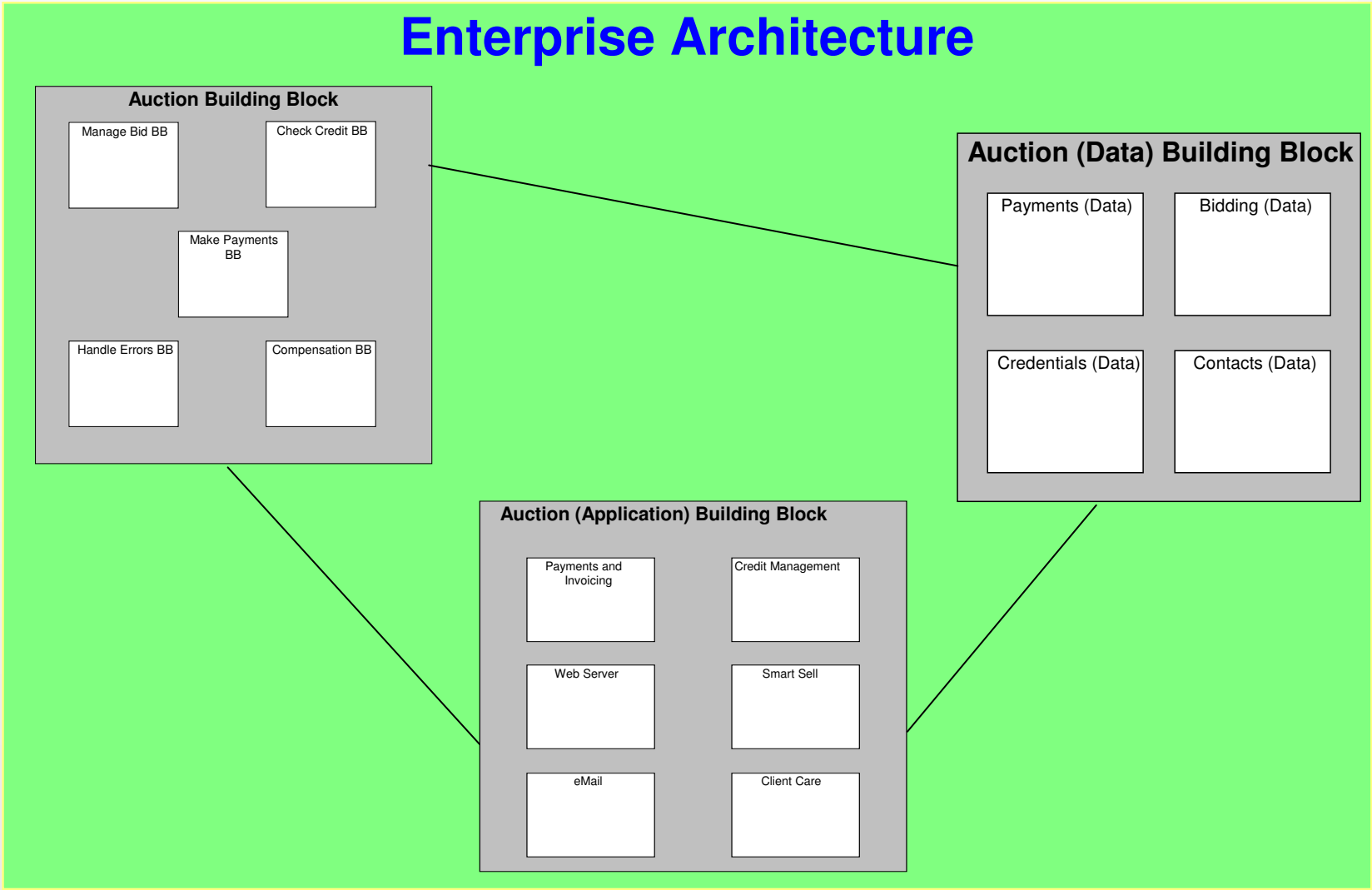
Applications Architecture



Enterprise Architecture – the Model View

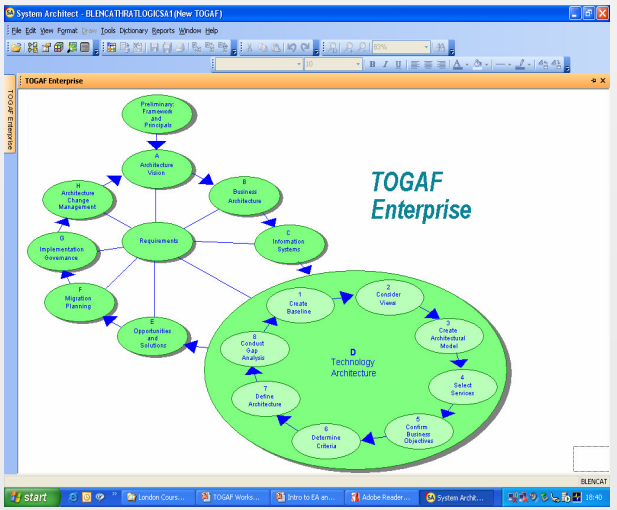


Enterprise Architecture – the Building Block View



What does a framework do

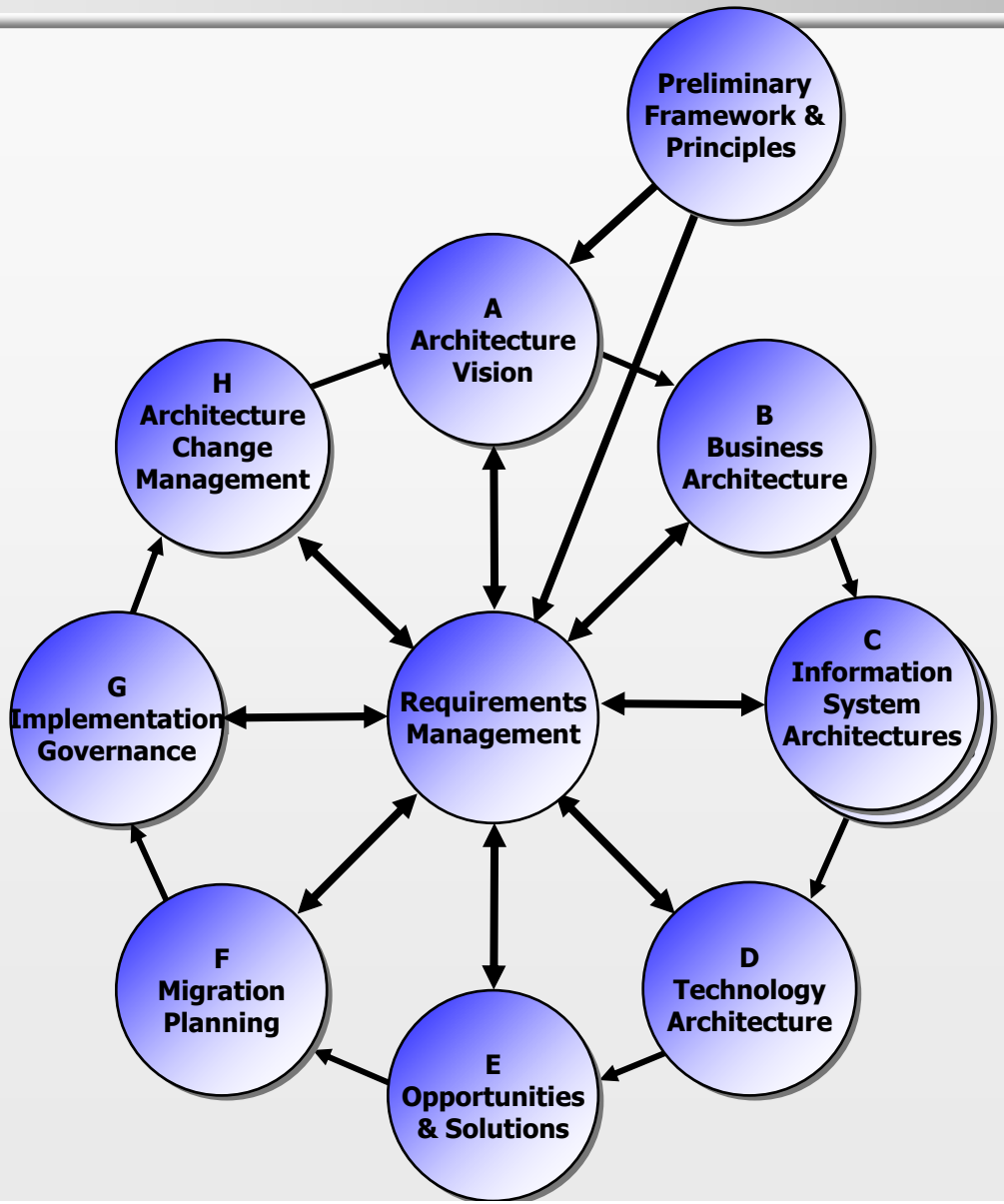
- Framework is **a tool for the architect**
- Frameworks ≡ the **public library (ISBN)**
- Architecture framework provides:
  - **Integration**
  - **Organisation**
  - **Classification**
  - **Check List**
    - Is the architecture complete
- framework graphic provides a **window on the underlying repository**
- "**Static**" and "**dynamic**" frameworks
  - **Content-focused** frameworks (Zachman)
  - **Process-focused** frameworks (TOGAF)



Tool Support for TOGAF

- Tool Support for TOGAF
  - What a tool won't do – why it's the last piece of the jigsaw
  - Why tool support
  - What TOGAF says about tool support
  - Tool certification for TOGAF
  - Tool Interoperability

The TOGAF Architecture Development Method



In the initial phases, standard office tools may suffice

As we proceed around the ADM cycle, the amount of information becomes unmanageable

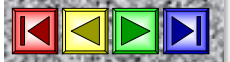
The Last Piece of the Jigsaw

What a tool won't do:

- Build your architecture for you
- Tell you how to do it
- Determine your standards and principles
- Tell you which models to create
- Tell you how they are related
- Capture information for you
- Communicate with your stakeholders
- Develop your migration plan

In other words …

- A tool is just a tool
- Your **choice of tool comes after** you know
  - what you want it for
  - How you will use it to met your EA needs

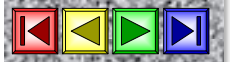


Your tool - the Final Building Block

Why Tool Support

Repository-based tool enables us to:

- **Store and maintain** all architecture artefacts in a common, shared repository:
  - Diagrams
  - Definitions
  - Relationships
- **Re-use and share** architecture artefacts
  - Define once, use in many models
- Create and present **multiple stakeholder views** of the same information
- Understand and manage the **impact of architecture change**
- **Trace the link** from (eg) business objectives ➔ models ➔ architecture ➔ solution
- Establish a **common vocabulary** for all stakeholders
- Support corporate **standards**, corporate **naming conventions**, business rules
- Provide **consistency** of:
  - meaning ➔ core taxonomy
  - definition content
  - diagram styles
  - presentation



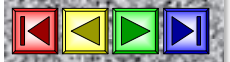
What TOGAF ADM says about Tool Support

Specific references to tools

- Preliminary Phase
  - *define a set of **criteria for evaluating architecture tools repositories** and repository management processes to be used to capture, publish, and maintain architecture artefacts*
- Phase B
  - *Step 2: Create Reference Models, Viewpoints and **Tools***
- Phase C
  - *Step 2: Create Reference Models, Viewpoints and **Tools***

Implied references to tools

- Traceability and rationale for decisions
- Impact analysis, including:
  - Architecture vs requirements
  - Across architectures
- Multiple stakeholder views



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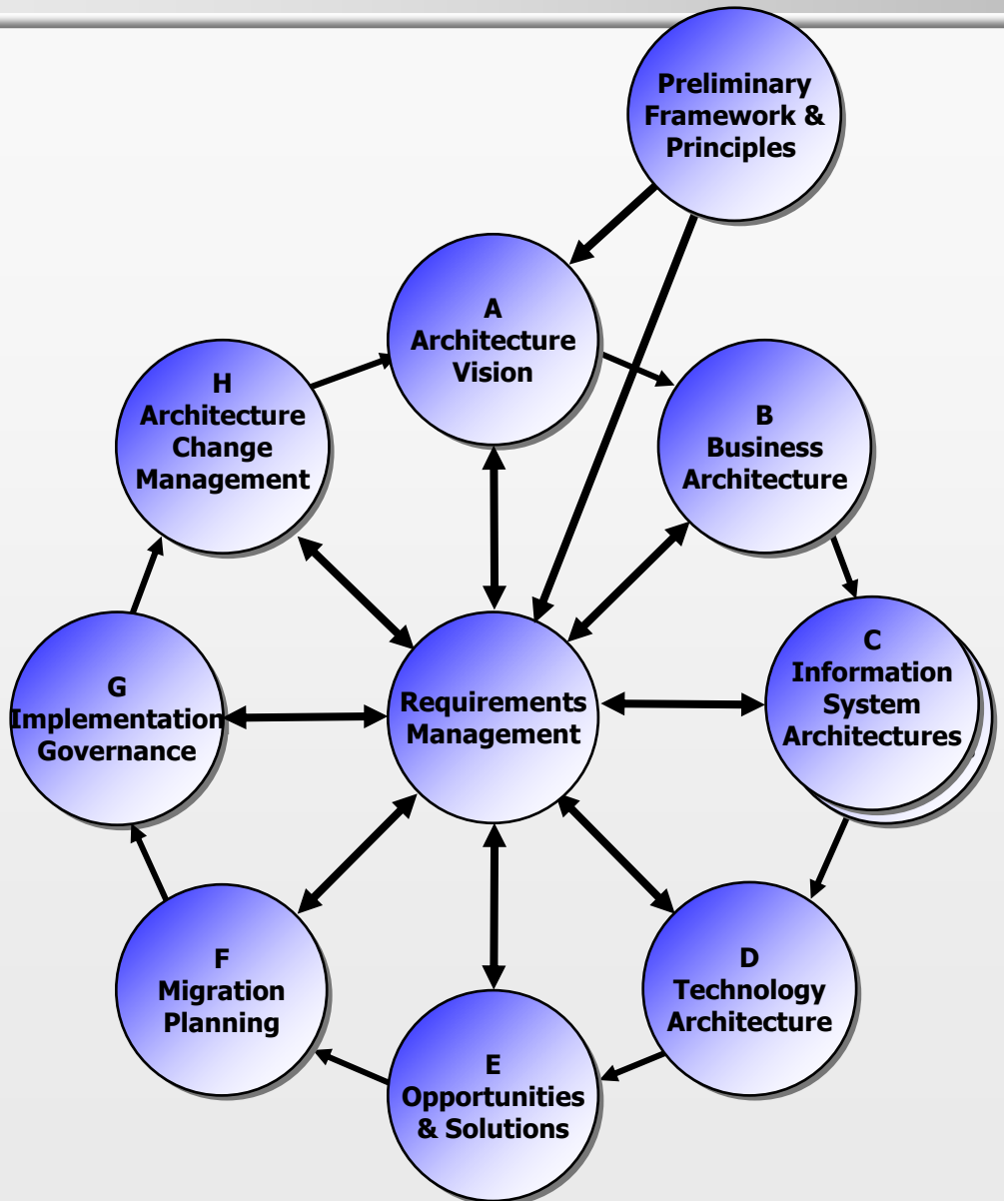

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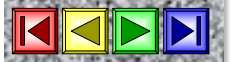
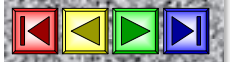
Tool Certification for TOGAF

- Tool certification managed by the Open Group
- **Three tools** currently certified for TOGAF
  - System Architect
  - METIS
  - ProVision
- Certification criteria defined by
  - **Product Standard**
    - defines high-level mandatory criteria
  - Conformance Statement Questionnaire (**CSQ**)
    - Mandatory and optional criteria
    - More specific and detailed than the Product Standard
    - Equivalent to ITT or RFI
- CSQ responses for each tool **published on TOGAF web site**
  - Visible to all
  - Aid to tool selection
- Use same (CSQ) criteria to **evaluate other (non-certified) tools**



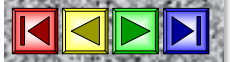
Tool Criteria in the CSQ

- **General criteria**
  - How well does it support architecture design
  - Does it support multiple stakeholder views
  - Is it independent of methodology and framework
  - How good is the user interface
  - Can the tool be customised
  - Can the tool communicate with other tools and applications
  - How does the tool enable production of required documentation
  - What computer environment(s) does the tool run on
  - How good is the support and maintenance from vendor



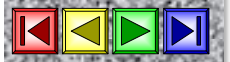
Tool Criteria in the CSQ

- **TOGAF specific criteria**
  - Does it guide you through the ADM phases
  - Does it support the creation of the core TOGAF products
  - Can it store the definitive source of graphical and textual artefacts
  - Can you define required relationships between architecture artefacts
  - Does it support re-use of architecture artefacts:
    - From within your enterprise
    - From the Enterprise Continuum
    - From reference models (TRM, III-RM)
  - Does it enable extract and publication of TOGAF documentation
    - Electronic and paper media
    - The 4 Architectures
    - Business Scenarios, Views and models
  - Does it support standard modelling methods and diagram styles
  - Does it have a common, shared repository
  - Does it support versioning of models and architectures
  - Does it support role-based access

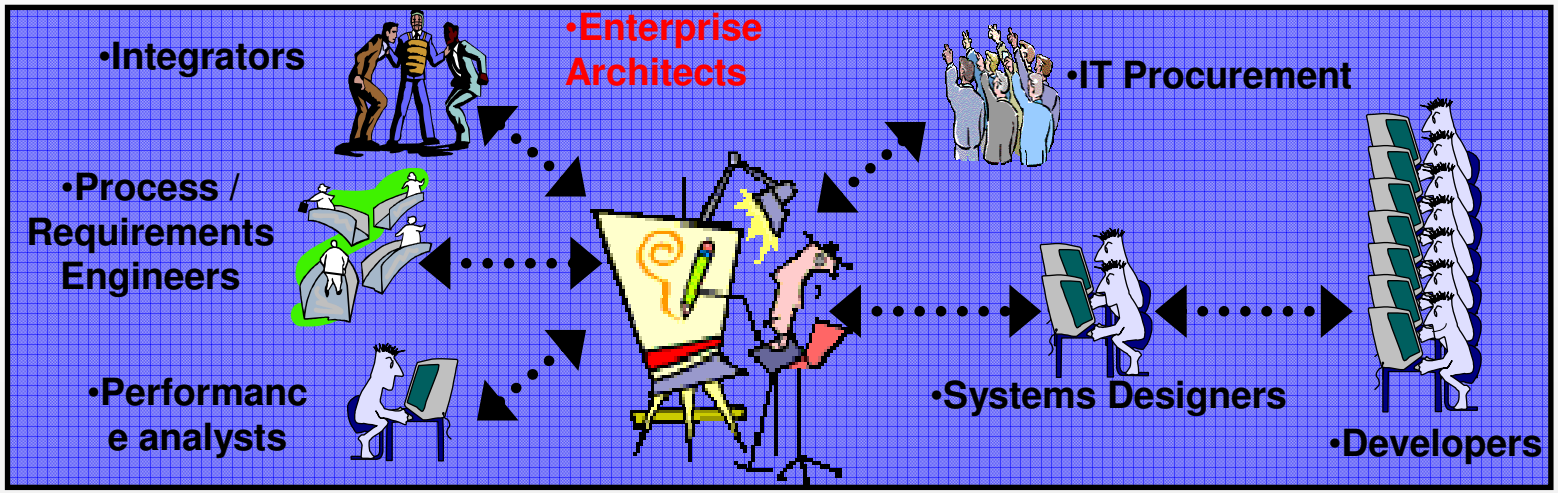


Tool Interoperability

- Information interchange between toolsets is problematic
  - Lack of agreed standards
  - Technical constraints
  - Commercial constraints
- Need exists for a standard Architecture Description Language (ADL)
- ADL would enable import and export of architecture constructs between models and among architecture tools
- Architectural information could be exchanged with:
  - requirements tools
  - modeling and simulation tools
  - performance evaluation tools
  - configuration management tools
- **Enterprises would benefit from an ADL being adopted in the tools they use to encode an architecture**



Tool Interoperability – the ideal



•Open tools for defining and interchanging architectures

•Architecture building blocks defined using open tools

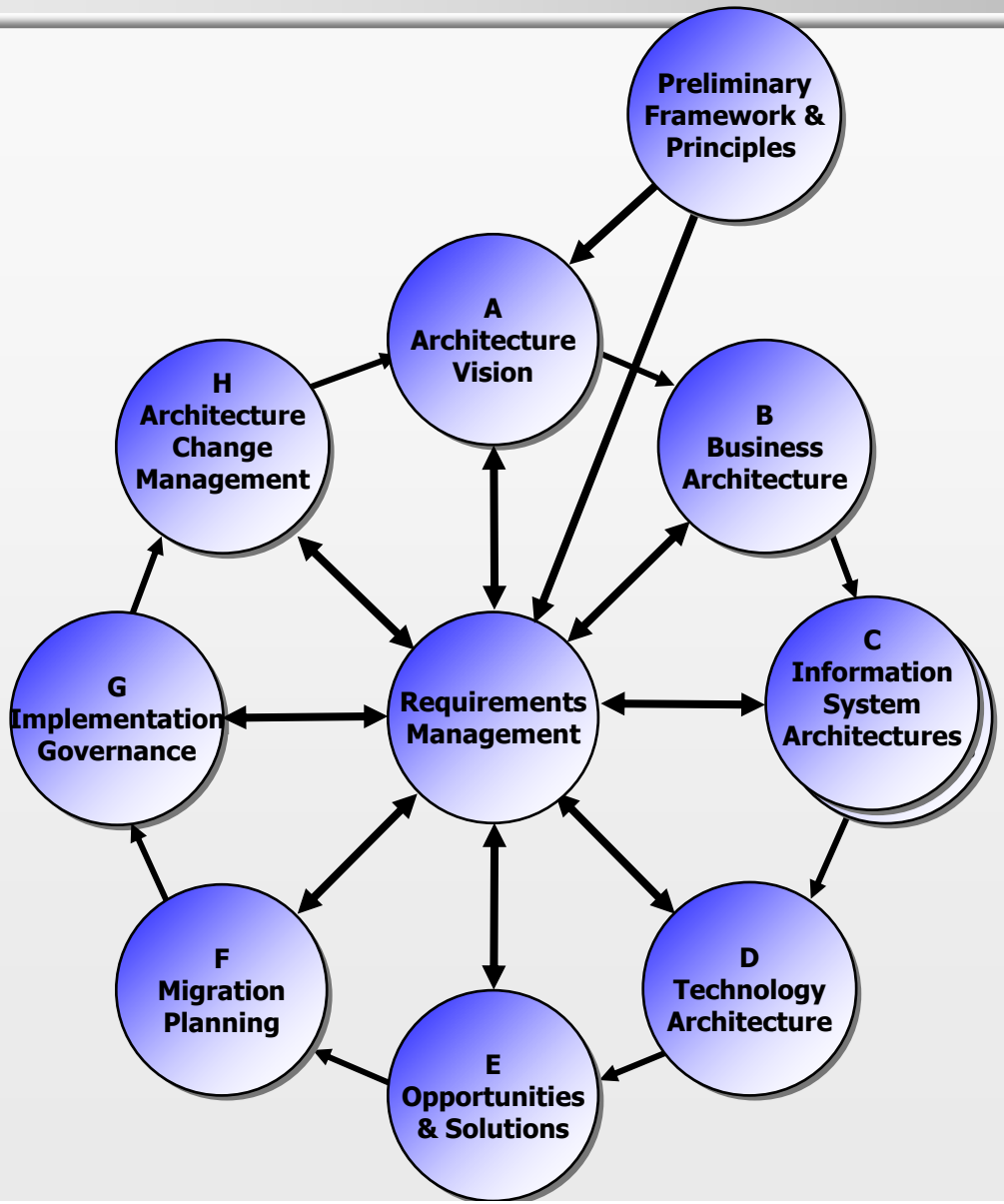
•IT products conformant to building block definitions

THE Open GROUP

•Architecture Tools vendors

•IT Solutions vendors

The TOGAF Architecture Development Method



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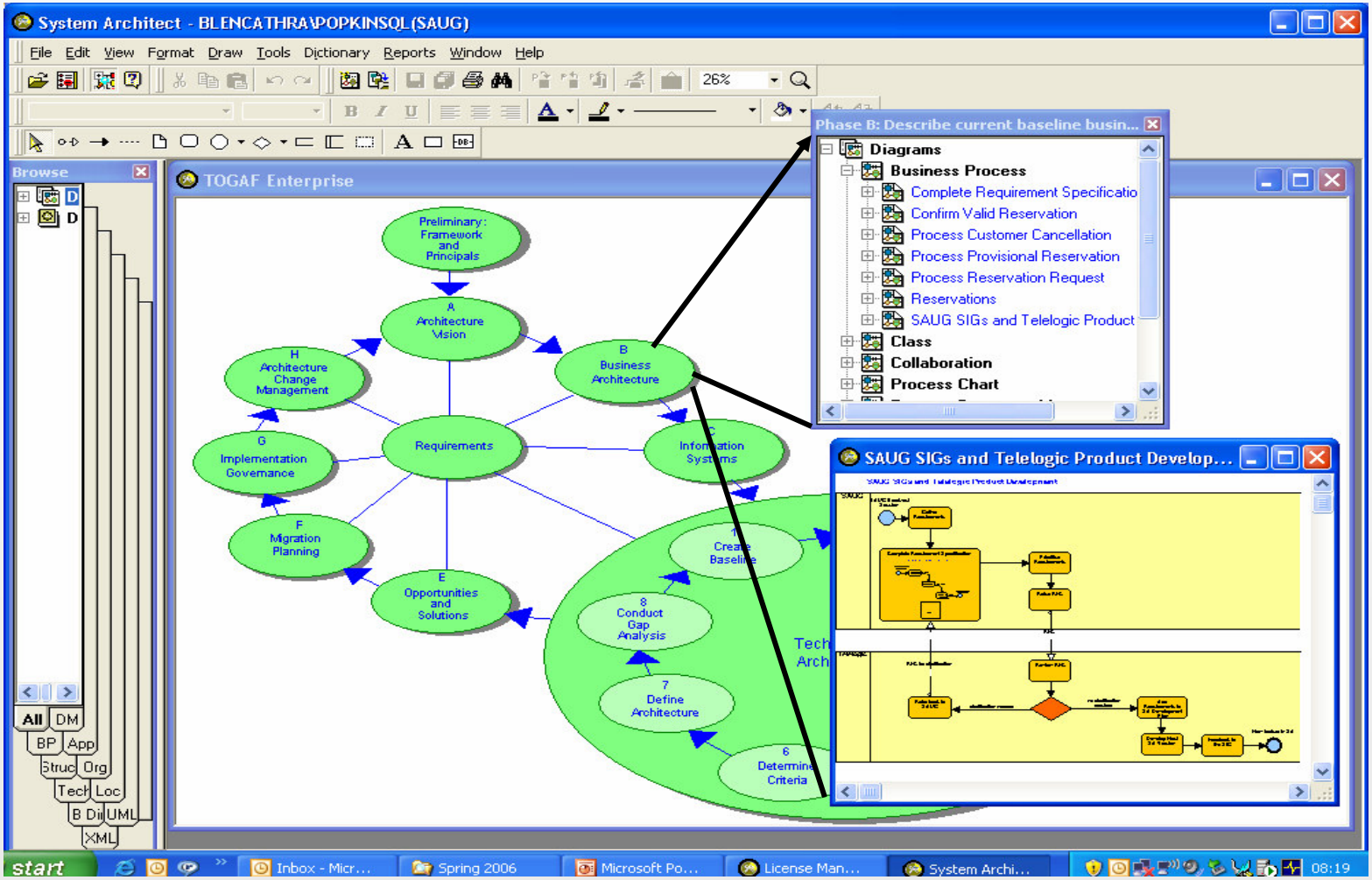
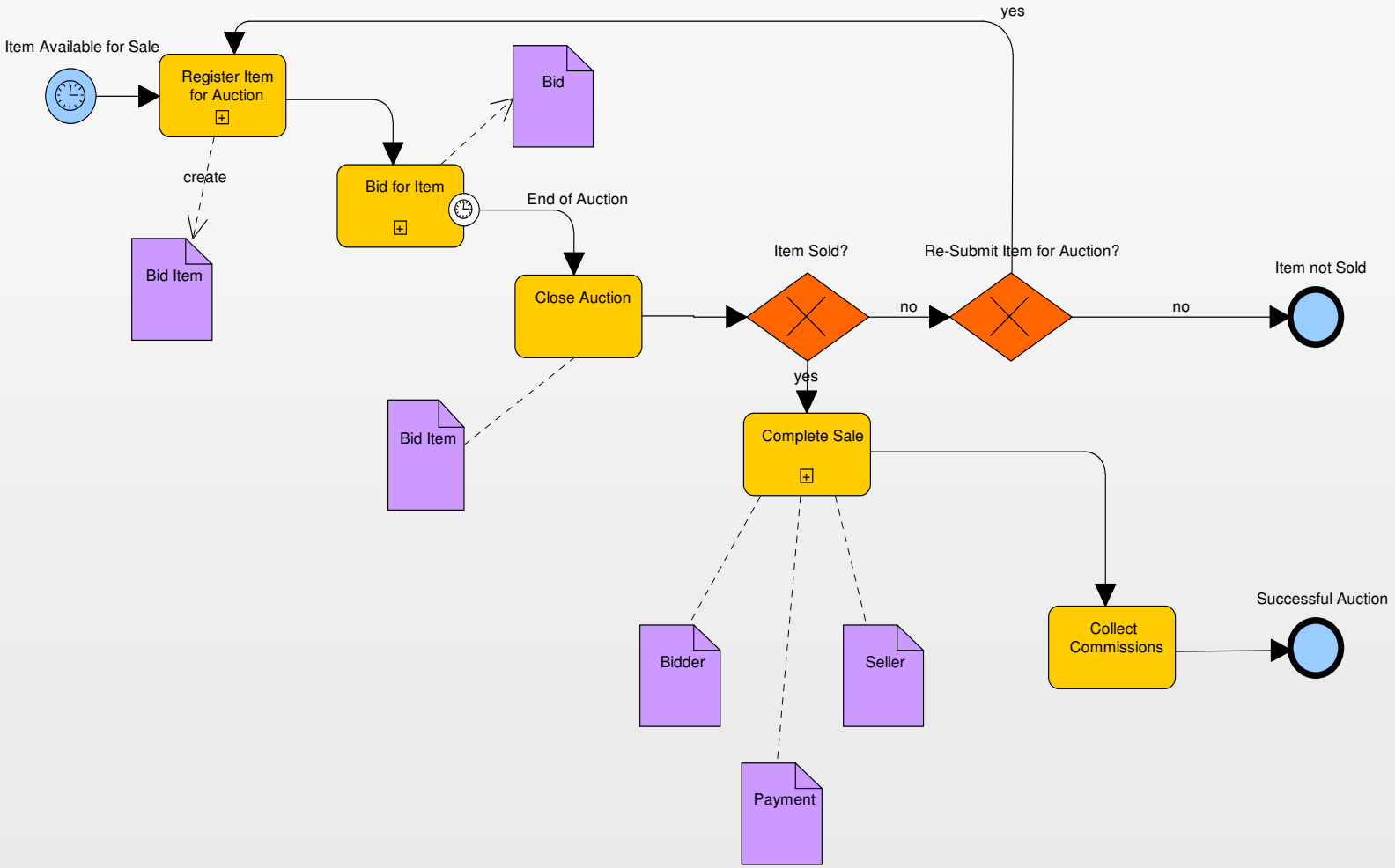
Examples of Tool support for TOGAF

TOGAF Framework front-end and browser



Examples of SA support for TOGAF

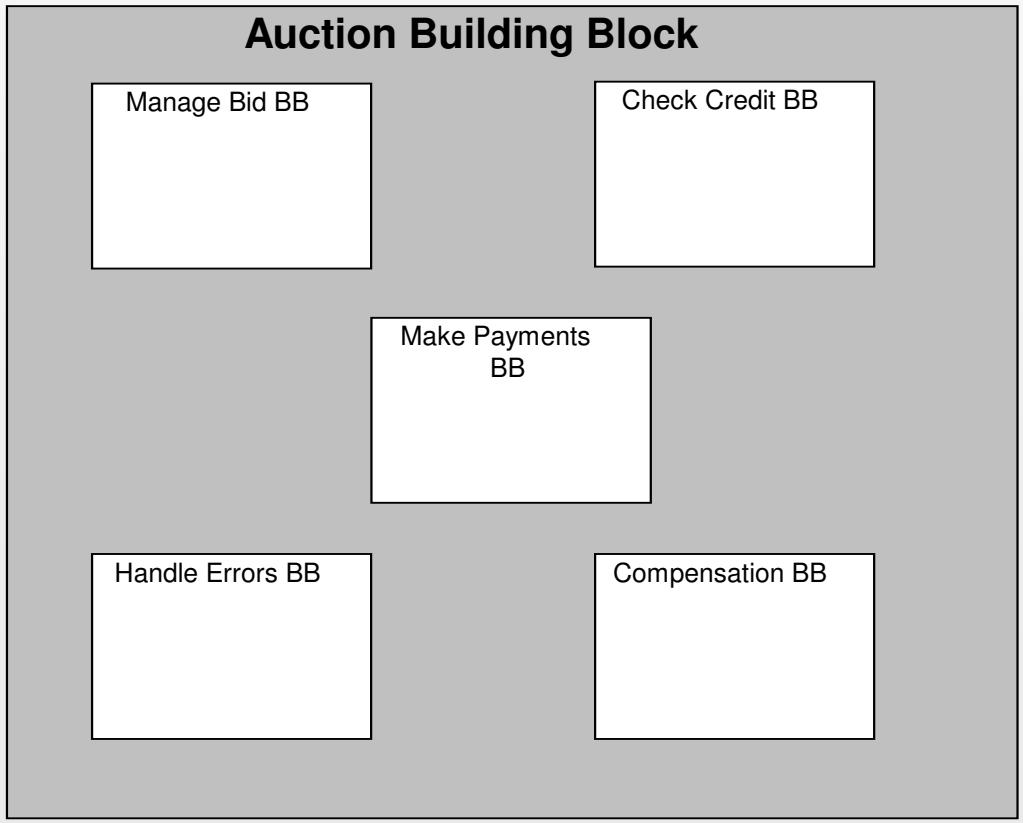
Standard modelling methods (BPMN)



Examples of SA support for TOGAF

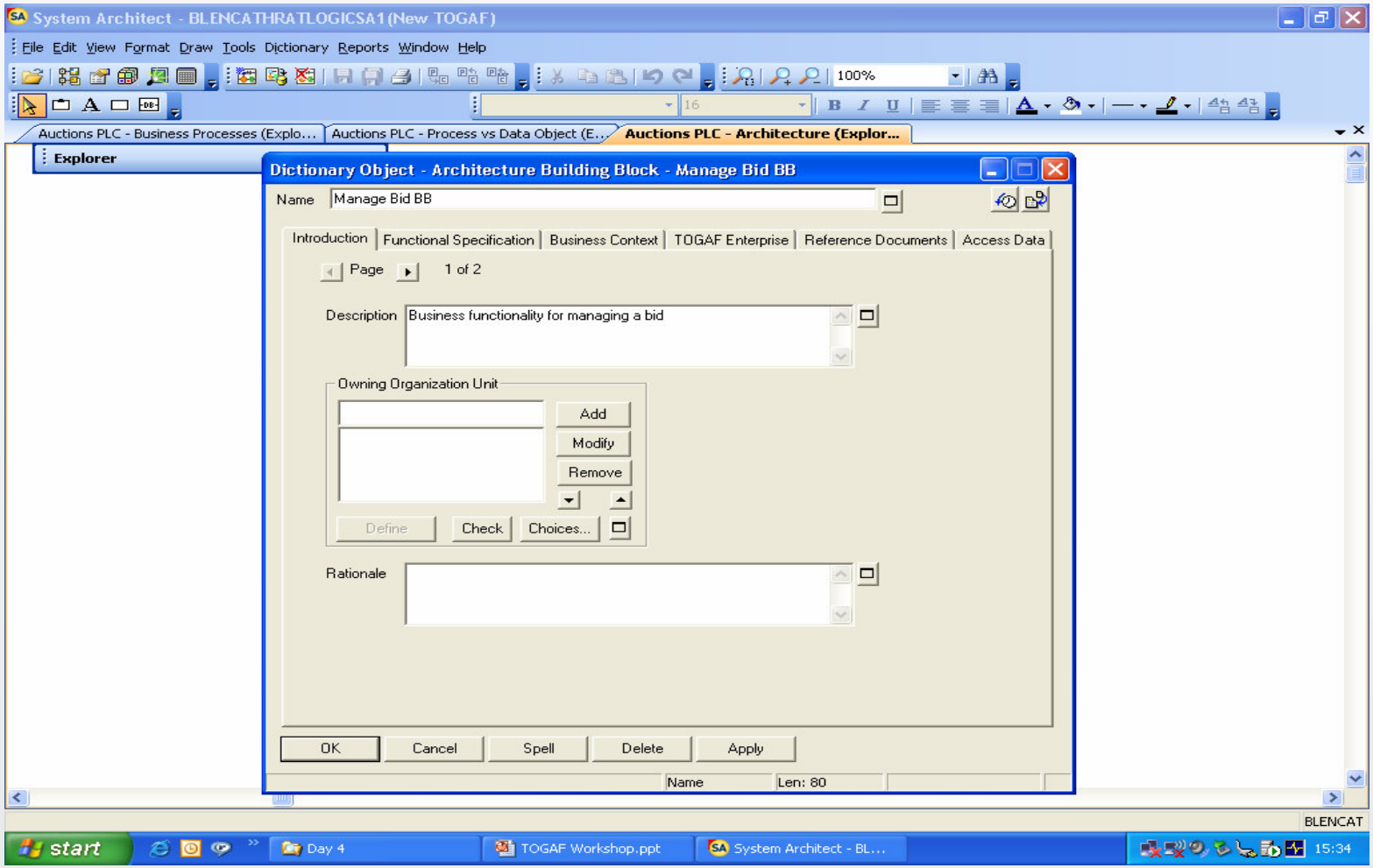
Additional diagram types for TOGAF (Business Architecture)

Business Architecture for Auctions



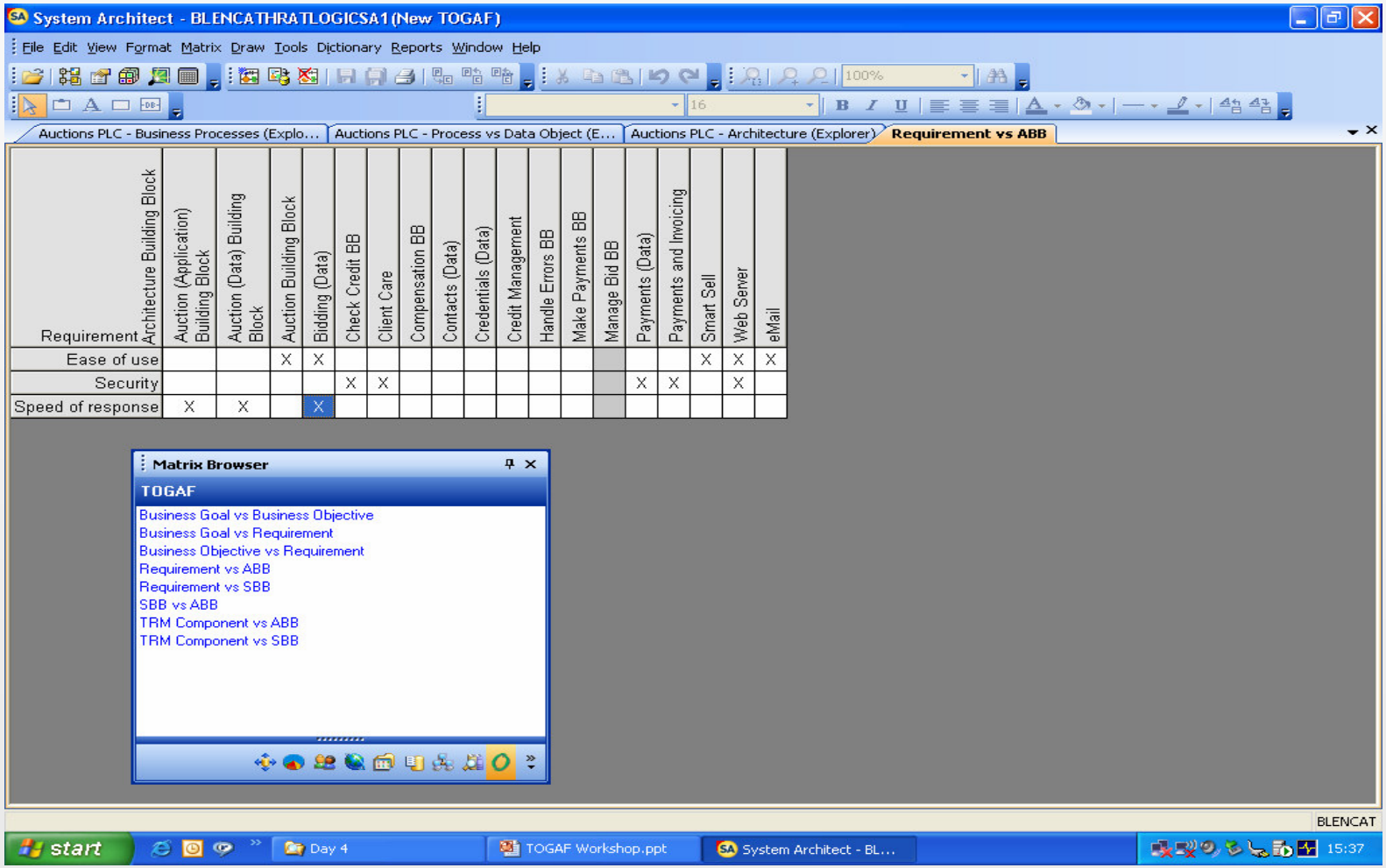
Examples of SA support for TOGAF

Additional definition types for TOGAF (Business Architecture)



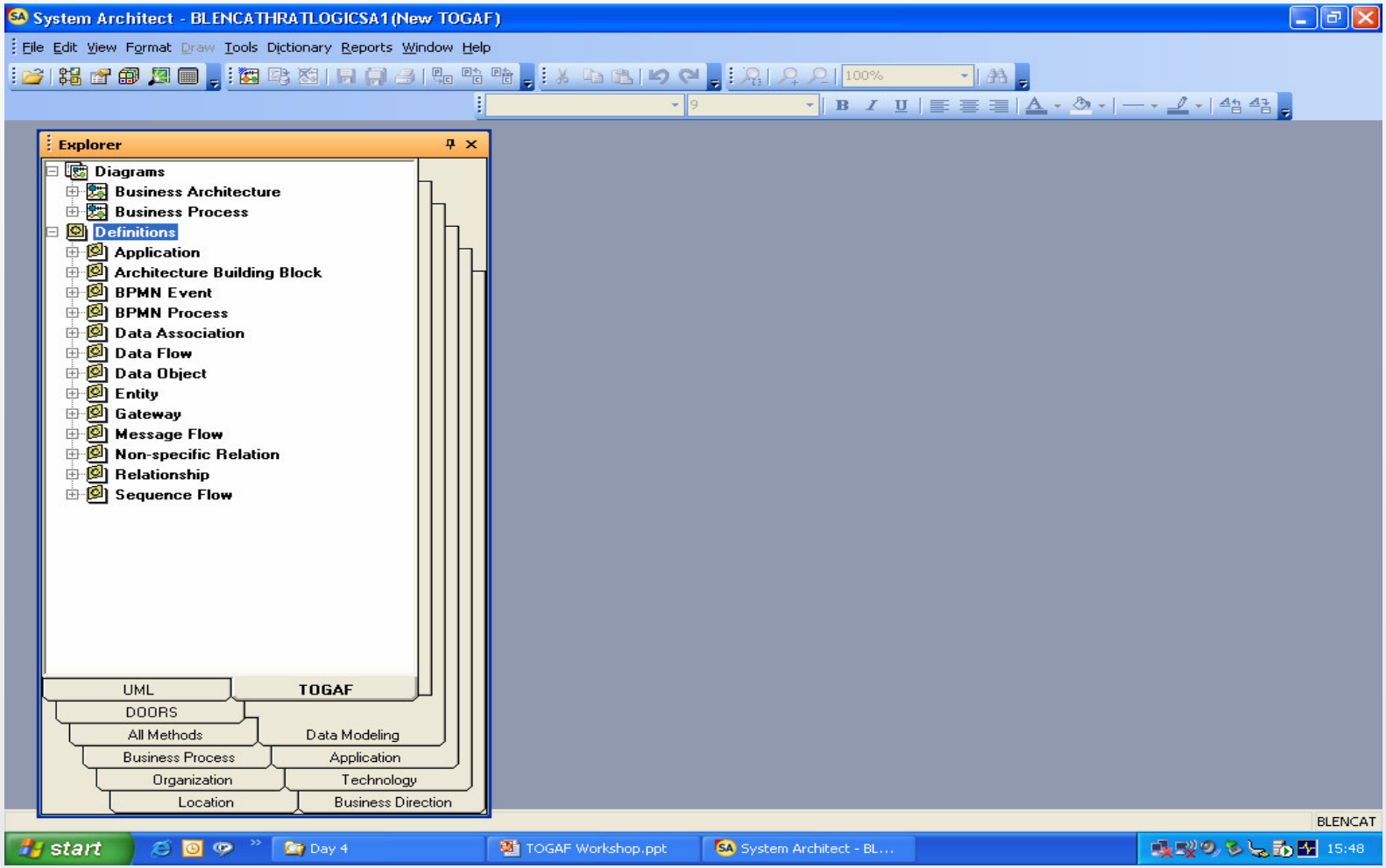
Examples of SA support for TOGAF

Matrices for (requirement vs ABB)



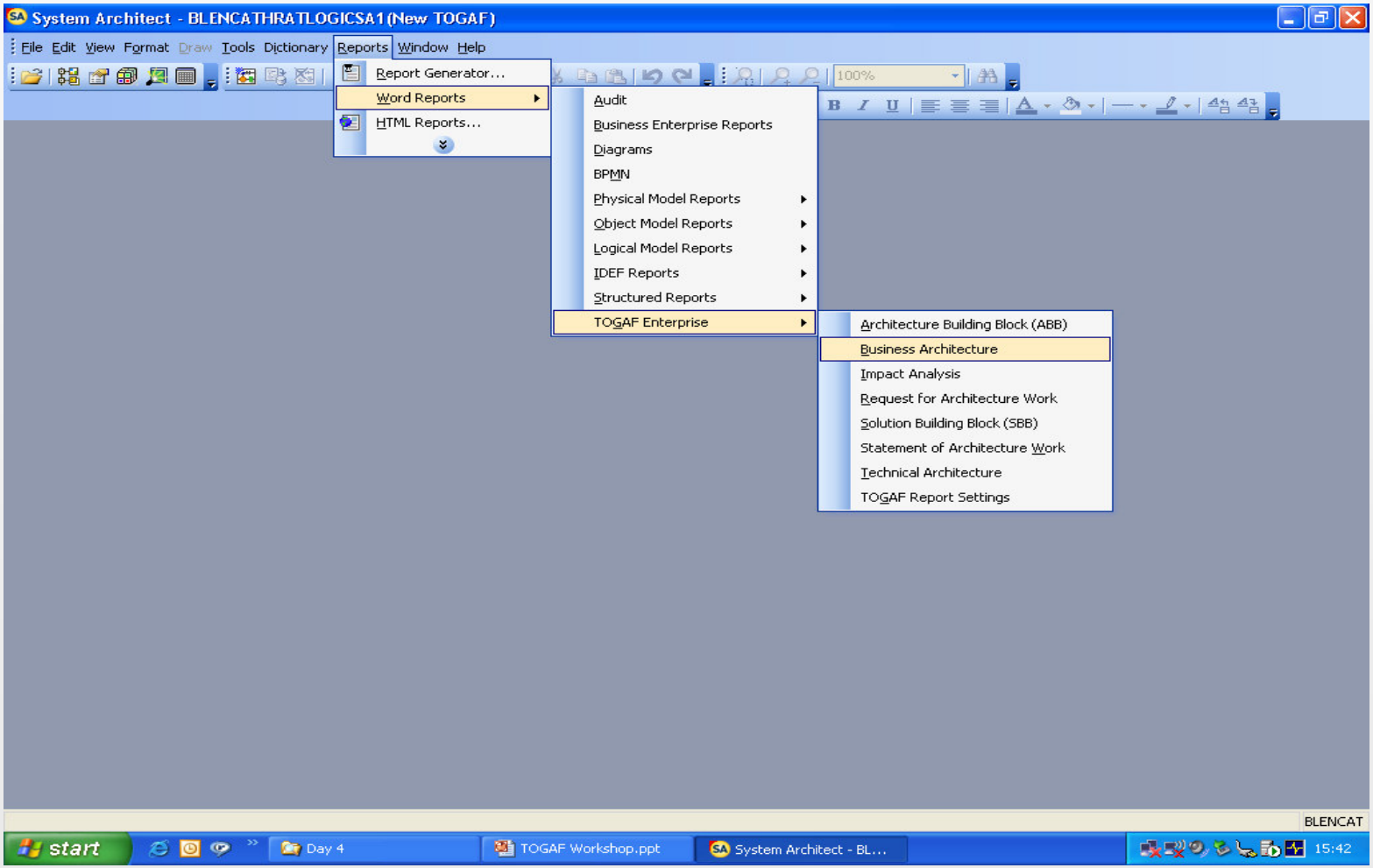
Examples of SA support for TOGAF

TOGAF Browser TAB



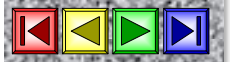
Examples of SA support for TOGAF

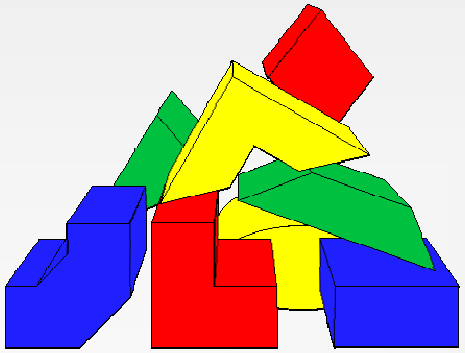
TOGAF Word Reports (Business Architecture)



Summary

- EA supports an operating business in achieving its goals
- EA an asset to the organization
- EA a key enabler for achieving alignment between business and IT
- An Architecture Framework is a tool for the architect
- Framework provides integration, organisation, classification
- **Can't do it without a repository-based tool**
- The tool won't do your architecture for you
- **The tool decision comes last …**
- **… but you need to make it before you start creating your architectures**





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